

REMARKS

In the outstanding Office Action, the Examiner rejected claims 1-7, 14-16, and 28-30. Applicant respectfully traverses this rejection. Claims 1-7, 14-16, and 28-30 are pending and under consideration.

Improper Final Rejection

The instant rejection was allegedly made final because Applicant's previous amendment necessitated new grounds of rejection. See, Office Action at page 5. However, the only new document presented in this rejection was United States Patent No. 5,775,715 to Vandergrift ("Vandergrift"). Because Vandergrift could have been used as a reference against the claims before they were amended, the most recent amendment to the claims did not necessitate new grounds of rejection. Indeed, the other patents cited along with Vandergrift are exactly the same patents that were cited in the previous Office Action. Thus, Applicant respectfully requests that the finality of this most recent Office Action be withdrawn.

Rejection under 35 U.S.C. § 102(b)

The Examiner rejected claims 1-4, 6, and 7 under 35 U.S.C. § 102(b) as allegedly anticipated by United States Patent No. 5,775,715 to Vandergrift ("Vandergrift"). Office Action at pages 2-3.

Applicant has carefully considered the Vandergrift patent and has found no teaching or suggestion of reducing the piezoelectric material into particles. Applicant respectfully asserts that Vandergrift does not teach or suggest this step.

In particular, the Examiner stated:

[a]s applied to 1, Vandergrift discloses a method of making a piezoelectric film comprising: . . . reducing the piezoelectric material to particles (column 8, lines 26-38)

Office Action at page 2.

The passage in Vandergrift quoted by the Examiner does not contain any reference to reducing piezoelectric materials into particles. Indeed, nowhere does Vandergrift teach or disclose the step of “reducing the piezoelectric material to particles. . .,” as recited by claim 1. Furthermore, the Examiner concedes this lack of teaching in Vandergrift by stating “Vandergrift does not teach a milling the ceramic material into particles.” Office Action at page 4. Therefore, Applicant respectfully submits that the rejection of claim 1 under Vandergrift should be withdrawn for at least the above reasons. Claims 2-4, 6, and 7 ultimately depend from claim 1. Thus, these claims are allowable for at least the same reasons discussed above for claim 1.

Rejection Under 35 U.S.C. § 103(a):

In the outstanding Office Action, the Examiner rejected claims 5, 14-15, and 28-29 under 35 U.S.C. § 103(a) as being unpatentable over Vandergrift in view of U.S. Patent No. 5,792,379 to Dai et al. (“Dai”). In addition, the Examiner rejected claims 16 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Vandergrift in view of Dai and further in view of U.S. Patent No. 3,958,161 to Dixon (“Dixon”). Office Action at pages 3-4.

With respect to claims 5, 14, and 28, the Examiner stated:

As applied to claim 14, 5 and 28, Vandergrift discloses a method of making a piezoelectric film comprising . . . sintering the piezoelectric material to make a ceramic material (column 3, lines 65-68) . . . contacting the particles with a flexible matrix material (column 5, lines 1-13) . . . and curing the matrix material (column 7, lines 40-45).

Office Action at pages 3-4.

However, Applicant has carefully considered Vandergrift, including the specific sections stated above, and cannot find support for these assertions. In particular, despite the Examiner's assertion, Vandergrift does not teach or suggest "sintering the piezoelectric material to make a ceramic material" In fact, nowhere does Vandergrift even mention sintering. Indeed, the section suggested by the Examiner for disclosure of this claim element discloses instead the general object of the Vandergrift invention, namely a piezoelectric damping system for use on either snow skis or snowboards. See, Vandergrift, column 3, lines 65-68. This disclosure is woefully inadequate to teach or suggest "sintering the piezoelectric material to make a ceramic material . . .," as recited by claims 14 and 28.

Similarly, Vandergrift does not teach or suggest "contacting the particles with a flexible matrix material . . ." or "curing the matrix material" The passages relied upon by the Examiner to support these assertions do not describe these claim elements. In contrast, column 5, lines 1-13 of Vandergrift describe using pre-impregnated, fiber-reinforced composites to characterize the structural performance of the ski rather than contacting piezoelectric particles with a flexible matrix material to facilitate damping. First of all, as stated above, Vandergrift does not teach or suggest piezoelectric particles at all. Thus, Vandergrift cannot be said to teach or disclose contacting piezoelectric materials with a flexible matrix material. Secondly, the

structural function of the fiber-reinforced composite is very different from the damping function of the piezoelectric particles contacted by a flexible matrix material. In other words, just because fiber-reinforced composite materials typically use a resin system to enhance the structural aspects of the ski does nothing to teach or suggest contacting piezoelectric particles with a flexible matrix material.

While column 7, lines 42-45 teach that it “may be advantageous to form the piezoelectric damper from organic polymers due to their ability to be easily formed into thin films or particular shapes,” the entire Vandergrift reference is silent on explaining how to accomplish this result. Again, nothing in Vandergrift teaches or suggests piezoelectric particles at all, so that it is only through the impermissible use of hindsight reconstruction that the Examiner can say that Vandergrift teaches or suggests “contacting the particles with a flexible matrix material . . .,” as recited by claims 14 and 28. In short, Vandergrift simply does not disclose this claim element.

Furthermore, there is no suggestion or motivation to combine Vandergrift with Dai. As discussed previously, Vandergrift does not disclose reducing the piezoelectric material to particles. Indeed, Vandergrift discloses the use of piezoelectric films in rectangular pieces, which suggests a **teaching away** from particularizing the piezoelectric material. See, e.g., Vandergrift, col. 7, ll. 21-32 and 46-48. In addition, Dai does not teach or suggest using a flexible matrix material to contact the piezoelectric material, nor does Dai teach or suggest an application to vibration damping or heat generation. Accordingly, one skilled in the art would not have the requisite suggestion or motivation to combine Vandergrift with Dai.

For at least the reasons discussed above, Applicant respectfully submits that claims 5, 14, and 28 are patentable over the Vandergrift-Dai combination. Claims 15-16 and 29-30 ultimately depend from claims 14 and 28, respectively. Thus, these claims are allowable for at least the same reasons discussed above for claims 14 and 28.

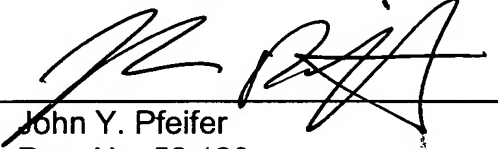
In view of the foregoing arguments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.


Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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Dated: July 18, 2005

By: 
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